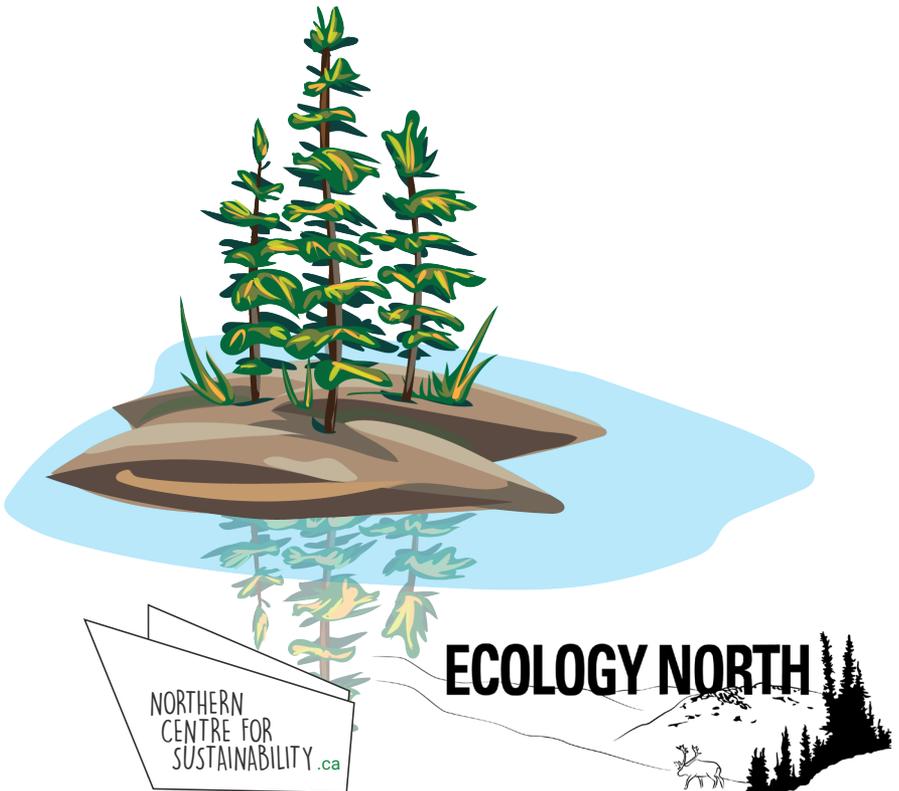


NORTHERN CENTRE FOR SUSTAINABILITY
presented by Ecology North

Technical Workshop Outcomes Report:

PLACE: SUSTAINABLE DESIGN FOR THE CITY OF YELLOWKNIFE

3 DECEMBER 2018 · YELLOWKNIFE NT



ATTENDEES

Matt Belliveau	Construction
France Benoit	NCFS Planning Committee
Kate Fane	Taylor Architecture Group
Whitney Fisher	Aurora College
Sylvie Francoeur	EN Member
Meghan Housley	EN Board
Colin Morris	Aurora College
Chris Oland	Taylor Architecture Group
Simon Taylor	Taylor Architecture Group
Laura Busch	EN Staff
Stuart Casgrain	EN Staff
Kristel Derkowski	EN Staff
Craig Scott	EN Staff

ITINERARY

Monday Dec 3, 2018

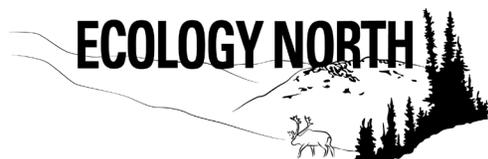
17h00 – 17h45 : Presentation by Ecology North

17h45 – 19h00 : Group brainstorming sessions

North Star Building

4910 53 St

Yellowknife, NT X1A 1V2



TOP 10 TAKEAWAYS

1

Bring together all partners at the beginning of the design process, to establish a clear and common idea of Place for the NCFS.

2

Incorporate local materials and symbols of Yellowknife's past, including its mining history and stories gathered from First Nations across the territory; consider Northern design features like a large mud-room and SAD lighting.

3

The main staircase should be a prominent design feature and be safe/pleasurable to use with a potential elevator being more tucked away. The stairs should be nicely lit with rotating displays of artwork which are visible from outside of the building.

4

There should be public bike parking in front of the NCFS plus a long-term parking area for staff: accommodating fat bikes and e-bikes, with easy access to a changing room with lockers, shower(s) and toilets.

5

The NCFS should be accessible, inclusive to all people and languages and draw people into its space by having planters, benches, and possibly a patio out front.

6

Habitat exchange goes beyond the scope of the building and plays a key role in involving the public and YKDFN, but it will take a long time given the uncertainty of land claims throughout the NWT. Allocating volunteer time at Thaidene Nene, YKDFN habitat restoration projects or helping on land claims may be more suitable ways for the NCFS to achieve this LBC imperative.

7

Develop suggested principles and values to guide the choice of land for Habitat Exchange; keep in mind that the imperative's focus is habitat/ecosystem protection, but linking it with cultural significance would be ideal.

8

Work with the café and other partners to decide on the best ownership structure for the greenhouse to address its operation/maintenance costs and how yield will be managed/sold, as well as deciding on the ideal setup for the education component.

9

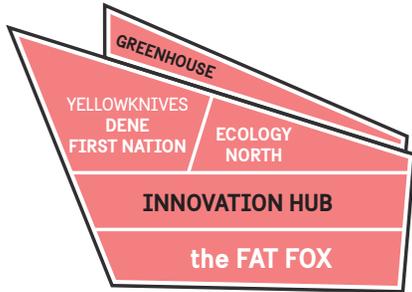
Increase engagement with the city by attending public sessions on urban agriculture and getting involved in applicable bylaw overhauls.

10

Maximize production of the urban agriculture space, whether that involves animal-based permaculture and/or having a multi-year growing cycle which gives a seasonal menu and maintains a soil/nutrient balance, while considering what is culturally appropriate.

1 NORTHERN CENTRE FOR SUSTAINABILITY

– Vision Statement & project development presented by Craig Scott, Executive Director



Imagine a place that transforms the North through innovative design, advocacy, inspiration, cultural reflection and the limitless possibilities of demonstration and education.

northerncentreforsustainability.ca

2 LIVING BUILDING CHALLENGE: PLACE PETAL

– LBC overview & specifics of the Place Petal presented by Stuart Casgrain, Engineering Intern



The intent of the Place Petal is to realign how people understand and relate to the natural environment that sustains us. The human built environment must reconnect with the deep story of place and the unique characteristics found in every community so that story can be honored, protected and enhanced. The Place Petal clearly articulates where it is acceptable for people to build, how to protect and restore a place once it has been developed, and how to encourage the creation of communities that are once again based on the pedestrian rather than the automobile.

living-future.org/lbc

LBC imperatives: the *Place Petal*

LIMITS TO GROWTH

To curb sprawl, restore natural ecosystems, and protect productive agricultural lands and ecologically sensitive areas from the negative impacts of development.

HABITAT EXCHANGE

To expand existing thriving wilderness areas and protect them from destruction caused by development and building material extraction. For each hectare of development, an equal amount of land away from the project site must be set aside in perpetuity through the Institute's Living Habitat Exchange Program or an approved land trust organization. The minimum offset amount is 0.4 hectares. In lieu of a financial contribution, small non-profit organizations (non-profits) may volunteer a minimum of 200 hours with an approved land trust during the project design, construction and performance period.

HUMAN-POWERED LIVING

To reduce transportation-related environmental impacts and encourage compact, connected communities that support a productive and rich lifestyle without need of a car. Each new LBC project should contribute toward the creation of walkable, pedestrian-oriented communities and must not lower the density of the existing site. Teams must evaluate the potential for a project to enhance the ability of a community to support a human-powered lifestyle.

URBAN AGRICULTURE

To re-establish a tie between humans and their nourishment, and reconnect communities to the land, since no truly sustainable community can rely on globally sourced food production. The project must integrate opportunities for agriculture appropriate to its scale and density to cover an area of 2% (assumed value) of the NCFS's footprint.

FORMAT & DISCUSSION TOPICS

The group split up and rotated between **four discussion tables**. Three of the tables focused on an imperative of the Place Petal. The fourth looked at the building's unique context in Yellowknife:

HUMAN-POWERED LIVING

URBAN AGRICULTURE

HABITAT EXCHANGE

YELLOWKNIFE CULTURE

The NCFS should have a positive impact on residents of Yellowknife and the Northwest Territories. Throughout the building's design and operation, particular attention will be given to meeting the specific needs and expectations of the local population. Respect and recognition will be given to Northern indigenous cultures. The building design will celebrate the unique and unifying elements of life in the City of Yellowknife.

IDEAS & INPUT

HABITAT EXCHANGE

- Habitat exchange goes beyond the scope of the building and plays a key role to involve the public and YKDFN, but it will take a long time and is not top priority for NCFS
- An exchange with YKDFN is the most likely avenue and the protected area should be incorporated into the building somehow
- Protect an area upstream of the Sacred Tree at the YKDFN Weledeh site; ties into the legend of the tree and Yamoria.
- Consider an ethno-biological vantage and document usable plants found in the protected hectare. Conduct literature review before consulting elders.
- Weigh the benefits of a ripple effect from protecting sensitive areas such as fracking sites and wetlands
- Keep in mind that the focus is habitat/ecosystem protection and not just cultural significance. Try to link both together
- Look for sites which indigenous people want protected the most and consult with elders to identify those areas.
- Focus first on developing standards of suggested principles and values before workshopping with the YKDFN.
- Having the site close to Yellowknife increases exposure and publicity but being further away is better aligned with minimizing human impact
- Areas could include caribou habitat, watersheds, traditional hunting and trapping grounds
- Integrate the protected green space into the building with information about habitat and flora with plaques, photos and nature scape on walls.
- Consider using the volunteer angle instead and volunteer at Thaidene Nene or for a YKDFN habitat restoration project
- Hay River, the Tlicho Region, and Inuvik are NWT areas with settled land claims so could offer land for conservation
- Due to the uncertainty of the Akaitcho land claim, we could create an agreement for a land parcel which would finalize once the land claim is settled
- Living future habitat exchange program is a good backup but the land should be in the north
- Within Yellowknife there are undefined green areas which could be targeted to be local and avoid acquiring withdrawal land

IDEAS & INPUT

HUMAN-POWERED LIVING

- Put benches out front for people waiting for the bus if there's a stop nearby as a courtesy to the public
- Have a short-term/public bike rack in the front and then separate area for staff that can accommodate fat bikes and have outlets for charging e-bikes
- Have a space for staff to leave coats and other items like a locker or cubby
- Have a co-ed bathroom on the first floor with stall doors to the floor and a separate shower room with enough space to get changed
- Put the stairs in a very accessible part of the building while the elevator is somewhat hidden in the back and out of the way
- Make the stairs a transformable art display with nice lighting and a view outside so people will enjoy taking them
- The solar panels could extend over the sidewalk to provide an awning for pedestrians; may need to ask for changes in municipal regulations
- Stairs should be a part of the design but may still need an egressed stairwell for fire purposes
- Reach out to the city about number of required parking spots especially given building elements like bike parking, sponsored bus stops or off-site parking
- A bus subsidy in Yellowknife may not be used that much by staff so moving that money to Ndilo-Yellowknife transit buses might be a better cause
- Refer to the decontamination rooms at Giant Mine as a source of inspiration for how the bike room, locker room, shower space should be configured
- Have communal bikes set up for winter riding onsite for staff, or for rent, for intra office transit
- Make a connection to the street by having a patio area that draws people into the building. City of YK has initiatives for patio spaces so permitting should be easy.
- A Ferris wheel biking holding system that spans two floors is a wonderful way to store bikes and make it a prominent display within the building
- The stairs should be a safe, secure, social and pleasurable to take with a large landing area with an area to mingle/sit
- Can human-powered living include a larger range of acceptable temperatures in the building and more readily rely on people adapting?



URBAN AGRICULTURE

- The hydroponics project in Whitehorse is a good example but requires a permit and developed food market. Hydroponics also uses chemicals and cannot grow root vegetables
- Look into the ongoing urban agriculture study by the city's department of economic development
- Planning and Lands Department is doing a bylaw overhaul - contact Nalini Naidoo
- Attend public agriculture sessions and present to the city now with the idea of having them as an active partner with the mayor and fire marshal onboard
- Is there a more culturally appropriate way to meet the LBC's intention (such as a community freezer, hide tanning space) that also suit the seasons better?
- Have various zones within the greenhouse that are partially conditioned so there are both freezer-like and fridge-like areas.
- What will the educational component of the greenhouse look like?
- An outdoor garden with medicinal plants is a good learning space and can include regional plants like juniper and Labrador Tea
- Chickens winter well and supply eggs while their manure can be combined with biochar as a powerful soil amendment
- Is meat-based permaculture a more suited food security solution than agriculture given the yield?
- Have a multi-year growing cycle which gives a seasonal menu and maintains a soil/nutrient balance.
- Think about how replicable and transferable the plans of the NCFS are to other northern communities and can it act as a small scale low tech demonstration?
- Main challenges include energy requirement for lights and heating, maintenance especially for raised beds, space for compost piles
- Who pays for the rent and maintenance of the greenhouse, does it generate revenue, will food be sold to the café?
- Have plants growing throughout the building aside from just inside the greenhouse
- The usage of the greenhouse should drive its development which are based around inspiration and, potentially, commercial success

IDEAS & INPUT

YELLOWKNIFE CULTURE

- Gather stories from First Nations throughout the territory and incorporate them into the building
- Display information about how the building works as well as recognizing the many cultures in the city of Yellowknife
- Bring all partners together to have consistency of space and values throughout the whole building
- The space should be accessible, inclusive to all people and languages and address the issue of homelessness like Birchwood did
- Hang such things as moose hides or canvas which span multiple floors or as partitions in the innovation lab
- Use YKDFN elements such as Traditional Knowledge, blueberries, moose, art, colour, edible and medicinal plants
- Include a symbolic wall or element from the old building which was deconstructed for the NCFS to take its place
- Have a system allowing people to do their own self-guided tours
- What does the YKDFN want the building to symbolize/reflect/represent?
- There should be a space for processing country food
- Building should be a beacon of change since not everything needs to stay the same
- Pay homage to the mining history of Yellowknife by including something fun like zinc panels
- The building should be family friendly and have an intergenerational feel creating a melting pot of cultures and ages
- Use local stones as flooring material like pink granite, terrazzo and flag stone from Great Slave Lake for things like crush stone flooring in the greenhouse
- Make the inside environment reflective of the outdoors to bring the outside inside
- Don't use any carpet but instead have hoofprints on the floor of all boreal animals

NEXT STEPS

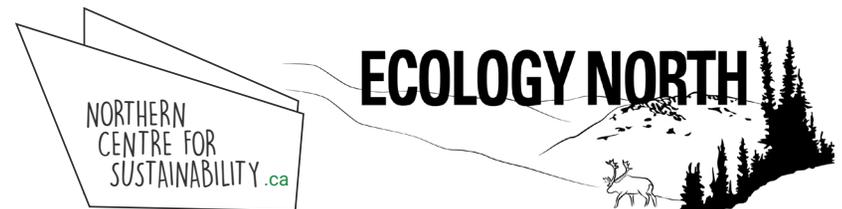
Reach out to the city about:

- a) Number of required parking spots especially given building elements like bike parking, sponsored bus stops or the option of off-site parking
- b) Having input on bylaw overhaul; contact City Planning and Lands Department
- c) Permitting requirement for patio spaces and sidewalk overhang limitations
- d) Existing urban agriculture studies

First Nations outreach to inform the cultural aspects of the building and to inquire about habitat exchange possibilities including volunteering option.

Conduct research on northern greenhouses to better understand what to grow and how to operate in a cold climate; as well as the best way to assimilate the thermal and ventilation capabilities of such a space for the benefit of the rest of the building

Make preliminary drawings of how the main staircase, changing room(s), and bike storage can be integrated into the NCFS.



Thanks to all participants!

more info available at:

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